

# Preliminary data report

On the introduction of the market correction mechanism



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# 1 Executive Summary

## Reasons for publication

On 22 December 2022, the European Council adopted Regulation (EU) 2022/2578 (the Regulation) establishing a market correction mechanism (MCM) to protect Union citizens and the economy against excessively high prices. The Regulation will enter into force on 1 February with application from the same day while the MCM only starts applying on 15 February 2023. Under Article 8(5) of the Regulation, ESMA is required to publish a preliminary data report concerning the introduction of the MCM by 23 January 2023 to be followed by an effects assessment by 1 March 2023. This report is the ESMA preliminary data report. ACER is also required to publish such a data report and ACER and ESMA have produced their respective reports in close cooperation.

## Contents

Following an introduction (Section 2) where ESMA describes the MCM and the mandate received, the report is structured as follows:

Section 3 presents the structure and main participants in the EU natural gas derivatives markets based on all data available to ESMA at this point, showing that derivatives on natural gas (futures and options) are mainly Exchange Traded Derivatives traded on ICE Endex in the Netherlands, EEX in Germany and, to a very limited extent, Nasdaq Oslo in Norway. End of day position holders are mainly energy firms (utilities and non-EU commodity trading firms). Proprietary trading firms (including algorithmic traders) account for a large share of transaction volumes but their end-of-day positions tend to be very low.

Section 4 focusses on market indicators, including prices, volumes and open interest, aimed at assessing the potential effects of the adoption of the MCM on energy derivative markets. The MCM will not come without consequences but at this point in time, no market changes could be identified that could be unequivocally and directly attributed to the Regulation agreed by the Council in December 2022. This section also provides a preliminary assessment of the possible impacts and risks that the new regulatory environment created by the MCM may have on market participants' trading strategies. In particular, it assesses how market participants could continue trading TTF derivatives via alternative means, including by moving to OTC markets, other maturities, contracts or to non-EU trading

venues. The section also outlines the more granular market indicators that ESMA intends to use for future reports and monitoring purposes.

Section 5 presents, through a mainly qualitative analysis, the potential impact of the activation of the MCM (and potentially the anticipation of its activation) on central counterparties (CCPs) as systemically important entities and on the broader clearing ecosystem, notably through CCP margin calls and subsequent liquidity needs for clearing members and their clients. Section 5 also outlines the indicators for potential changes in CCP risk management and margin increases that ESMA will be monitoring and analysing as from the entry into force of the MCM, as well as the applicable data limitations.

ESMA notes that some of the potential effects in the trading and clearing environment may only unfold when the activation of the MCM is imminent rather than in the current environment. In ESMA's view, should the settlement price and the spread to the reference price increase, the more likely it appears that potential effects and risks materialise due to market participants adjusting their behaviour to avoid the activation of the MCM and/or to manage risks in case of an activation of the MCM. While this behaviour would appear rational on an individual basis, it could trigger significant and abrupt changes of the broader market environment, which could impact the orderly functioning of markets, and ultimately financial stability.

### **Next Steps**

Following this preliminary data report, and in accordance with the mandate given to ESMA by Article 8 of the Regulation, ESMA will submit to the Commission by 1 March 2023 an effects assessment. That assessment requires ESMA to analyse the effects of the MCM on financial energy markets, notably to verify whether the 'key elements of the MCM are still appropriate in light of the developments' as regards the financial energy markets.

## 2 Introduction

### 2.1 Legislative background

1. On 22 December 2022, the European Council adopted Regulation (EU) 2022/2578 (the Regulation) establishing a market correction mechanism (MCM) to protect Union citizens and the economy against excessively high prices. The MCM covers natural gas transactions in the TTF exchange-traded derivatives with maturities between month-ahead and year-ahead as an instrument against episodes of excessively high gas prices.
2. The Commission is mandated to assess the conditions, and where necessary calibrate the relevant thresholds, for an extension of the MCM to derivatives linked to other Virtual Trading Points (VTPs). The Regulation enters into force on 1 February 2023 with application from the same day. However, the MCM will only start applying on 15 February 2023.
3. The MCM will be activated upon a 'market correction event', i.e. when the front-month TTF derivative settlement price, as published by ICE Endex B.V (a) exceeds EUR 180/MWh for three working days; and (b) is EUR 35 higher than the reference price calculated by ACER during these three working days.
4. Once the MCM is activated, prices of TTF derivatives that are due to expire in the period from the expiry date of the front-month TTF derivative to the expiry date of the front-year TTF derivative shall be capped at the 'dynamic bidding limit', defined as the reference price + EUR 35. If the reference price is below EUR 145/MWh, the dynamic bidding limit remains at EUR 180/MWh.
5. In accordance with Article 12 of the Regulation, the MCM regime will not apply to (a) TTF derivatives contracts concluded before 1 February 2023, (b) TTF derivatives contracts bought or sold to offset or reduce TTF derivatives contracts concluded before 1 February 2023 and (c) TTF derivatives contract bought or sold as part of a CCP default management procedure, including "OTC trades registered in the regulated market for clearing purposes".
6. The MCM can be deactivated or suspended subject to meeting certain conditions. Firstly, the MCM shall be deactivated 20 working days from the occurrence of the market correction event or later, if the reference price is below EUR 145/MWh for three consecutive working days, or where a regional or Union emergency has been declared

by the Commission, notably in case of a significant deterioration of the gas supply situation. Moreover, the Commission shall suspend the market correction mechanism at any time where unintended market disturbances or manifest risks of such disturbances occur, negatively affecting security of supply, intra-EU flows or financial stability.

## **2.2 ESMA mandates and approach**

7. Under Article 8(5) of the Regulation, ESMA is required to publish this preliminary data report concerning the introduction of the MCM by 23 January 2023.
8. In addition, ESMA is required to assess the effects of the MCM on financial and energy markets and on security of supply, notably to verify whether the key elements of the MCM are still appropriate in light of the developments as regards the financial and energy market and security of supply and submit their reports to the Commission by 1 March 2023.
9. ESMA appreciates the heavy burden that excessively high energy prices are placing on EU households and on the economy and understands the intention behind the measures introduced by the MCM Regulation.
10. ESMA however also notes that, by curbing the key price discovery function of regulated markets, the MCM will not come without consequences on market participants' trading behaviour and may have an effect on the ability of all market participants to effectively manage their risks. In this report ESMA is looking into the structure of the TTF gas markets based on all data available to ESMA at this point in time. ESMA is also trying to provide an assessment of potential risks associated with the introduction of the MCM.
11. More precisely, following a more detailed description of the structure and main participants in the EU natural gas derivatives market, the ESMA preliminary data report focusses on market indicators aimed at assessing the potential effects of the adoption of the MCM on energy derivative markets including (a) price evolution, (b) evolution of volumes and open interest and (c) potential shift of trading activity (to OTC trading, to other gas contracts, to other venues).
12. Considering the significance of the issues raised, ESMA deems it useful to already include in this preliminary report a more qualitative analysis of the possible risks to CCP risk management and the potential impact on the clearing of energy derivatives arising from the introduction of the MCM.

13. This preliminary report has been produced by ESMA to the best of its efforts under challenging time constraints. As the MCM was adopted in December 2022, the market indicators only cover a short period with a limited level of trading activity compared to other periods. Hence, the market indicators will need to be further looked into for the effects assessment due by 1 March 2023. Likewise, the qualitative impact assessment of the introduction of the MCM will be supplemented in the 1 March assessment.
14. The legal mandate for this Report as designed by the Council was to capture the impacts of the MCM following its approval. It is likely that an immediate activation of the correction mechanism would have had a visible effect on the EU financial and energy markets in a situation where those markets would have been functioning under immense scarcity and in a stressed and volatile environment, as it was the case in the third quarter of 2022. However, in the current market conditions, ACER and ESMA have so far not identified significant impacts resulting from the approval of this Regulation. This should not be interpreted as the MCM not having any effects on the financial and energy markets in the future.
15. With this in mind ACER and ESMA have designed two reports in close cooperation focusing on a number of factors that could explain why no significant impacts of the MCM have materialised so far from the different perspectives of energy and financial market regulators. Both agencies are also suggesting indicators to be followed once the impacts become more apparent. It is also important to note that the price monitoring foreseen by the Regulation only starts applying on 1 February 2023 with the activation not being possible earlier than 15 February 2023.

### **3 Structure and main participants of EU natural gas derivatives markets**

16. Derivatives on natural gas (futures and options) are mainly Exchange Traded Derivatives (ETDs) (currently around 75% of notionals for EU entities) and to a lesser extent OTC (currently around 25% of notionals for EU entities). TTF futures and options are traded on three EEA regulated markets: ICE Endex in the Netherlands, EEX in Germany and, to a very limited extent, Nasdaq Oslo in Norway. Trades on these exchanges are cleared

centrally through ICE Clear Europe in the UK for ICE Endex<sup>1</sup>, ECC in Germany for EEX and Nasdaq Clearing in Sweden for Nasdaq Oslo. In addition, TTF derivatives are available for trading on one EU OTF<sup>2</sup>. The ICE Endex TTF future is the most liquid energy contract in the EU with an open interest of around 920,000 lots (as of December 2022<sup>3</sup>) and qualifies as a significant contract subject to the MiFID II position limit regime. Open interest on EEX TTF derivatives was around 300,000 lots as of December 2022<sup>4</sup>.

17. Overall, as of January 2023, gross notional exposures of EEA30 counterparties amounted to EUR 411bn,
18. The structure of EU natural gas derivatives markets can be categorised into different parts (Chart 2). First, ultimate investors can be EU or non-EU entities, including energy firms (utilities or independent commodity trading firms). Investors can trade on derivative exchanges or bilaterally in the OTC market. CCPs have clearing members which can be EU or non-EU firms. EU clearing members for natural gas derivatives are mainly large banks and to a lesser extent energy firms.

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Chart 1  
Structure of EU natural gas derivatives markets  
Complex interactions

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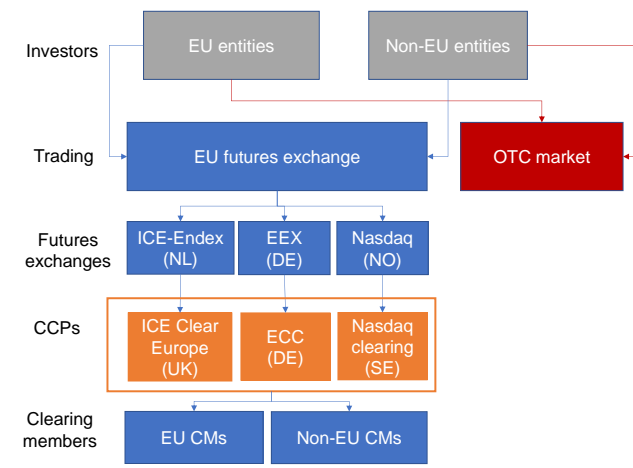
<sup>1</sup> Although ICE Clear Europe is domiciled in the UK, the CCP is supervised by ESMA because it is a Tier-2 CCP.

<sup>2</sup> Traded volumes of TTF derivatives reported by this OTF to ESMA in 2022 were quasi-inexistent.

<sup>3</sup> Source: <https://www.theice.com/marketdata/reports/238>

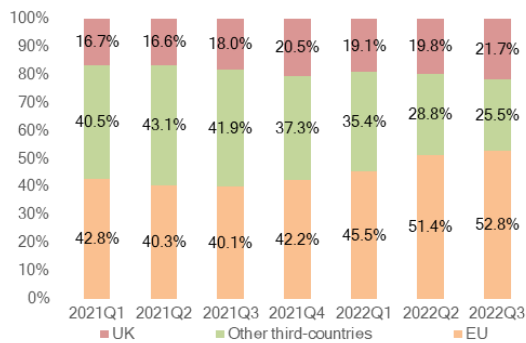
<sup>4</sup> Source: Refinitiv EIKON.





## Main participants on derivative exchanges

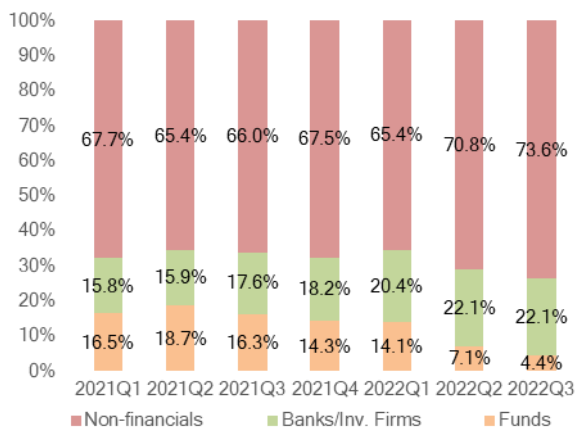
19. On derivative exchanges, the main types of market participants can be analysed using trading data as well as position reporting at exchange level. Regarding trading activity, a large part of volumes traded are performed by proprietary trading firms. As in other electronic markets, those firms tend to be very active in terms of trading volumes but tend not to take long lasting directional positions.
20. End-of-the-day position data on exchanges reported to NCAs indicate that non-EU firms account for a large, albeit declining, share of positions (Chart 2). While in 2022Q1, non-EU firms represented around 57% of all positions, this share has declined to 46% during the year. The largest decline has been observed for US firms, while the share of UK participants has increased. Some heterogeneity can be observed among derivative exchanges, with a higher participation of non-EU firms on ICE Endex than on EEX.



Note: Gross positions per quarter and per geographical zone  
Sources: MIFID II Daily positions ICE Endex, EEX and Nasdaq, ESMA calculations

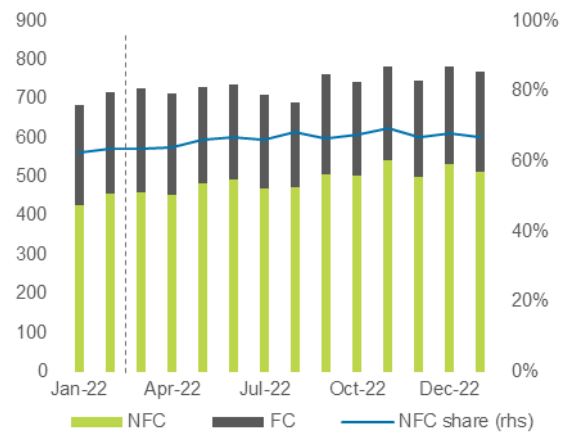
21. In terms of types of market participants, more than 70% of positions are held by non-financial counterparties (utilities and non-EU commodity trading firms), followed by financial institutions (banks) at around 22% and investment funds (although their activity has recently declined substantially in line with the reduction of positions of non-EU hedge funds in the market) (Chart 3). In terms of volumes, proprietary trading firms (including algorithmic traders) account for a large share of transactions although their end-of-day positions tend to be very low. Trade repository data indicate that the EU natural gas derivative network tends to be structured around two clusters: an ETD cluster, where a few banking clearing members cater for a range of energy firms and an OTC cluster where energy firms trade with each other.

Chart 3  
 Gross positions on natural gas futures  
 Mainly non-financial firms



Note: Gross positions per quarter and per sector  
 Sources: MiFID II Daily positions ICE Exch, EEX and Nasdaq, ESMA calculations

Chart 4  
 Number of market participants  
 Slight increase of participants and share of NFCs



Note: Number of EEA30 counterparties with at least one active gas derivative trade by month and sector classification. Dashed line shows the beginning of the invasion of Ukraine.  
 Sources: EMIR, ESMA

22. Zooming into the number of market participants, a slight increase can be observed ranging from 680 (Jan 2022) to 770 (Jan 2023). This trend was accompanied by a slight increase of NFCs resulting in a share of 67% of NFCs compared to all market participants in January 2023.

## 4 Possible impacts of the MCM on natural gas derivatives trading activity

23. The MCM imposes a price limit above which counterparties would no longer be allowed to place an order on regulated markets for a given set of gas derivatives contracts. In doing so, the mechanism directly affects the price formation process and introduces a disconnection between the price observable on EU regulated markets and the price resulting from market fundamentals, which will continue to be observed on non-affected markets (e.g. OTC)<sup>5</sup>. In this context, market participants are likely to seek to adapt to the

<sup>5</sup> It has though to be noted that the dynamic bidding limit ensure that the price limit reflects to some extent developments in the reference price.

new TTF markets regulatory environment by exploring other ways of achieving the objectives that they currently fulfil by trading TTF derivatives on EU regulated markets without being bound by the price limit.

24. Such adaptations could be achieved by various means not covered by the MCM, in particular by trading TTF derivatives (1) OTC; (2) on non-EU venues; (3) on regulated markets with expiries before that of the front-month or after that of the front year contract; (4) on EU venues which are not regulated markets and, pending a Commission implementing act, gas derivatives on VTPs different from TTF may be used as a proxy.
25. Market participants could therefore seek to redirect their trading activity to those contracts / venues / execution types not affected by the MCM. In any case, as none of those alternatives would provide for a perfect substitute for the affected contracts, disruptive effects may materialise, in particular regarding the ability of non-financial counterparties to adequately manage the risks associated with their business activity.
26. In the following, ESMA assesses the possible effects that the MCM could have on trading behaviours and, to the extent possible, the likelihood of such effects materialising. The analysis is supported, where possible, by market data readily available to ESMA. The analysis also presents the data which ESMA intends to work with for the monitoring of market developments in the near future.

## 4.1 Impact on prices

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Chart 5  
Prices of TTF future front month contract  
56% decrease in prices since 7 December



27. As described by ACER’s Preliminary data report concerning the introduction of the MCM, “[t]here are different factors that explain the changing market dynamics since December 2022 and extending into the first weeks of 2023. During 2022, front-month TTF gas prices were above 180 euros/MWh for several weeks and reached their peak in August, during the gas storage filling season. However, prices have fallen to levels below the MCM activation threshold since end-September 2022. More specifically, between 20 December 2022 and 18 January 2023 front-month TTF prices further dropped by circa 40% to levels of 65 euros/MWh in mid-January 2023”. This “price drop since end September resulted from a combination of factors. Among them is demand reduction in energy-intensive industries due to the high price levels. The introduction of energy efficiency measures adopted by both industrial and household sectors have equally contributed to a fall in demand. Storage filling levels are above last years’ averages, and have also contributed to driving prices down. [...] Moreover, in the immediate month after the Regulation’s adoption, winter weather has been significantly milder than usual in Europe, which, together with rising power generation from renewables and nuclear production gradually recovering, has also reduced gas demand. This took place alongside an overall gas supply situation that remained robust, with in particular LNG imports reaching record high levels and storages.”
28. ACER additionally states that “[i]t cannot be concluded from the above-mentioned factors that the MCM has played a relevant role in reducing EU gas prices. Prices seem driven by fundamental supply and demand factors, not necessarily influenced by the MCM.”

## 4.2 Overall impact on volumes and open interest

### Background and data used

29. The gas derivative markets are analysed below according to two indicators: volumes and open positions. Volumes measure trading activity and refer to the number of transactions or the number of contracts which are exchanged every day, and to the size of those transactions; while open positions reflect the positions opened at a given point in time.
30. The metric commonly used to measure open positions is the “open interest”, which describes the number of positions open on a given contract and a given date. At any time, the number of long positions is equal to the number of short positions. The sum of all long positions (or equally, the sum of all short positions) is equal to the open interest, single counted.
31. Depending on market participants trading strategies, their share of the market can vary significantly depending on the indicator observed (volumes or open positions). Indeed, market participants with long term investment horizons may trade unfrequently but hold large positions; while market participants with very short investment horizons would typically trade very frequently but hold no position at the end of the day. It is therefore relevant to consider both indicators when assessing the market.
32. Regarding volumes, ESMA relied on data reported to the ESMA Financial Instruments Transparency System (FITRS) for the purpose of the MiFID transparency calculations (non-public regulatory data, volumes in EUR and number of transactions executed on EU venues).
33. This data is submitted to ESMA daily with a lag of seven days between the execution date and the reporting date. It encompasses two metrics: the number of transactions and the volume (expressed in EUR) executed on a given day, on a given instrument and on a given trading venue. Only transactions on regulated markets have been analysed with this dataset<sup>6</sup>. Volumes are reported in EUR and not in lots (number of contracts), therefore they are sensitive to the variation of price.

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<sup>6</sup> Very limited trading activity on OTF was excluded from the dataset for readability

34. Regarding open interest, ESMA relied on two sources: commercial database (open interest expressed in lots) and the MiFID weekly position reports (public reports on open positions, reported in lots by EEX and in MWh by ICE Endex). Differences between the numbers available in those two datasets can be explained inter alia by the different level of netting and the difference in reporting units (lots versus MWh).

#### Market developments observed

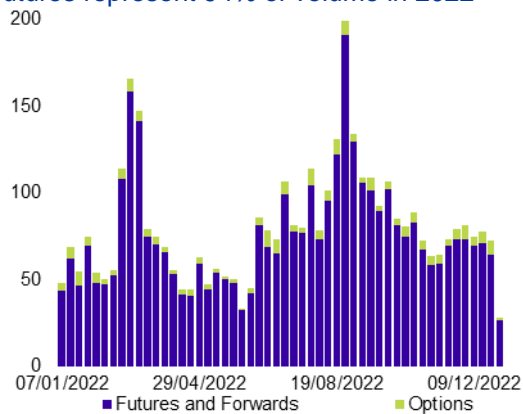
##### *a. Volumes*

35. Gas derivatives are mainly traded in the form of futures (94% of the volumes) with the remaining in the form of options (Chart 6). Among the different VTPs, TTF represented more than 95% of the volumes (Chart 7). Most of the trading activity is taking place on ICE Endex with the remaining part on EEX (Chart 8 and 9). On average during the year 2022, 114 thousand transactions in gas derivatives were executed every week, representing a value of 80 billion EUR.
36. With the gas prices increasing substantially in March and August 2022, the volumes (expressed in EUR hence sensitive to price movements) have logically increased significantly in those two periods. When measured by number of transactions (Chart 8), an increase in trading activity was observed in March 2022 but not in August 2022. The decrease in trading activity observed in the last week of December is understood to be seasonal and linked to end of year holidays.

## Weekly trading activity on natural gas derivatives on EEA regulated markets

Chart 6

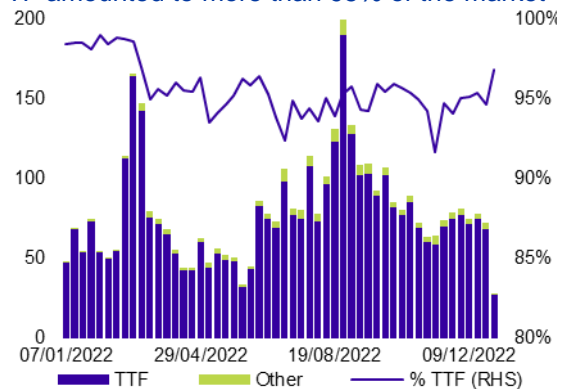
Volume by contract type  
Futures represent 94% of volume in 2022



Note: Weekly EUR bn volumes of notional trading on regulated markets for derivatives on natural gas by contract type. All type of derivatives and maturities included.  
Sources: FITRS, ESMA.

Chart 7

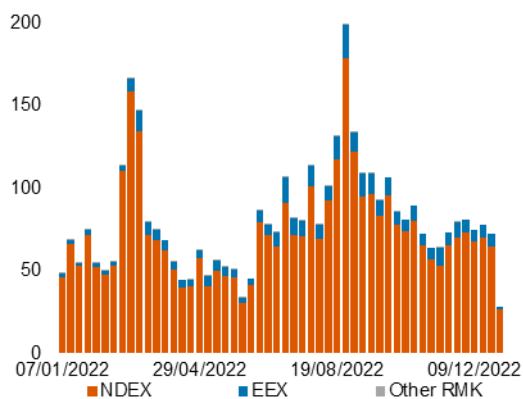
Volume by delivery zone for natural gas  
TTF amounted to more than 95% of the market



Note: Weekly EUR bn volumes of notional trading on regulated markets for derivatives on natural gas by underlying / delivery zone. All type of derivatives and maturities included. % TTF (RHS) represents the percentage to the total of TTF contracts in terms of volume.  
Sources: FITRS, ESMA.

Chart 8

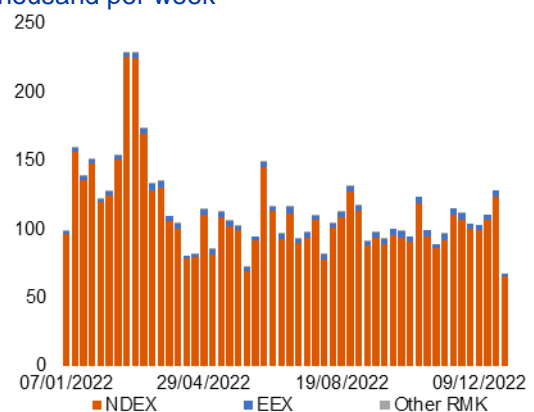
Volume by trading venue  
Volumes are concentrated on ICE Exch



Note: Weekly EUR bn volumes of notional trading on regulated markets for derivatives on natural gas by MIC/Market type. All type of derivatives and maturities included. NDEX stands for ICE Exch Markets and EEX for European Energy Exchange.  
Sources: FITRS, ESMA.

Chart 9

Number of trades by trading venue  
The number of trades was on average 114 thousand per week



Note: Weekly number of trades (thousands) on regulated markets for derivatives on natural gas by MIC/Market type. All type of derivatives and maturities included. NDEX stands for ICE Exch Markets and EEX for European Energy Exchange.  
Sources: FITRS, ESMA.

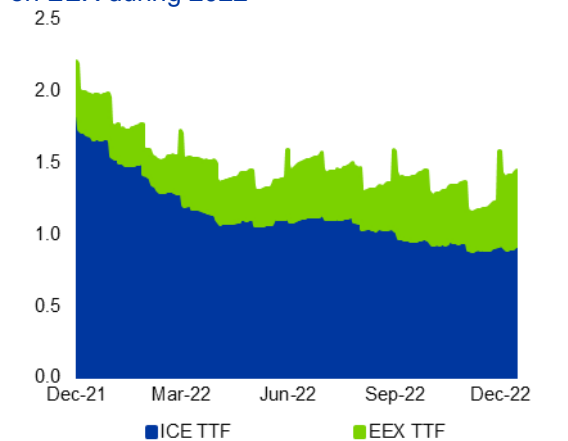
Note: Time scope ends on 30 December 2022 with figures updated on 11 January 2023. Reporting entities provide data to ESMA seven days after the execution.



*b. Open Interest (based on commercial data)*

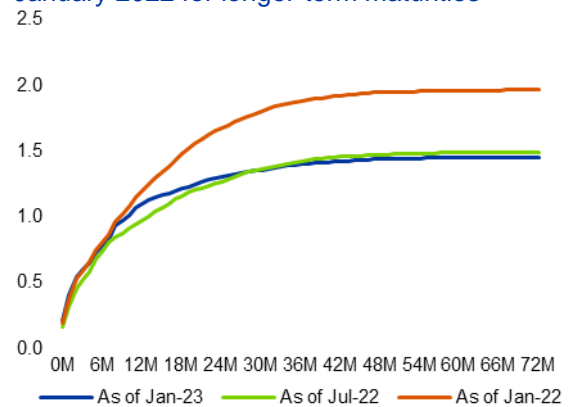
37. Open interests in TTF derivatives on ICE Endex declined in the first half of 2022 and remained relatively stable in the second half; on EEX there was an upward trend in the open interests in TTF derivatives in 2022, with open interests nonetheless remaining below those of ICE Endex (Chart 10).
38. As of January 2023, the absolute levels of open interest on shorter contracts are very similar to those observed at the same period in 2022; while on longer term contracts the open interest appear to have dropped significantly compared to January 2022 (Chart 11). This reduction in the OI of longer dated contracts appears to have taken place in the first half of 2022, as it was already observed in July 2022. This could be a reflexion of the increased uncertainty around the geopolitical environment leading to less appetite towards longer dated contracts.

Chart 10  
Evolution of open interest in number of contracts  
Open interest decreased on ICE and increased on EEX during 2022



Note: Daily total open interest, in million of contracts for TTF natural gas futures traded on ICE and EEX, all maturities combined.  
Sources: Refinitiv EIKON, ESMA

Chart 11  
Open interest profile by time to maturity  
Open interest in January 2023 below levels in January 2022 for longer-term maturities



Note: Open interest profile of TTF natural gas futures traded on ICE and EEX as the cumulative sum of open interest by month of delivery, in million of contracts.  
Sources: Refinitiv EIKON, ESMA

*c. Open positions (based on MiFID weekly reports)*

39. Since October 2022, no significant swings have been noticed in the number of open positions in TTF contracts, both on ICE Endex and on EEX, while the breakdown by type of position holders is in line with the expected functioning of the market where most of the positions are held by non-financial counterparties. When analysing the positions held by the latter, on ICE Endex it can be noted that around 60% of the long and around 80%

of the short positions were held for hedging purposes. These values were broadly stable during the analysed period. The slight change in the total number of positions observed towards the end of 2022 could be related to the contracts entering into delivery. On EEX, the distribution of hedging versus non-hedging positions is almost evenly distributed both in case of the long as well as of the short positions with no major change in the total number of positions (see charts 12-15).

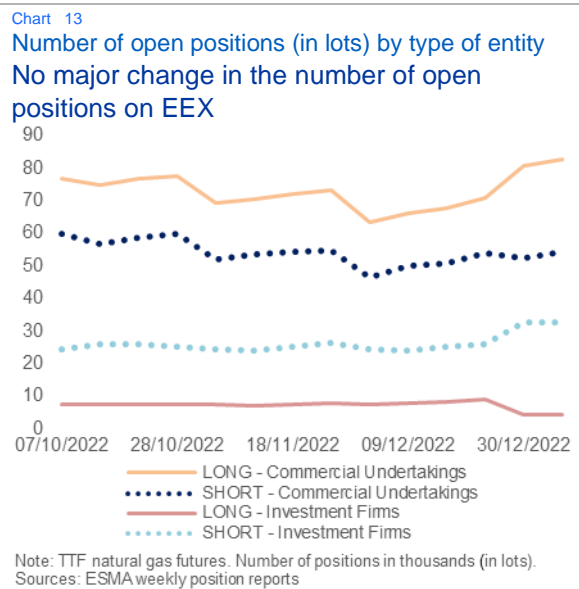
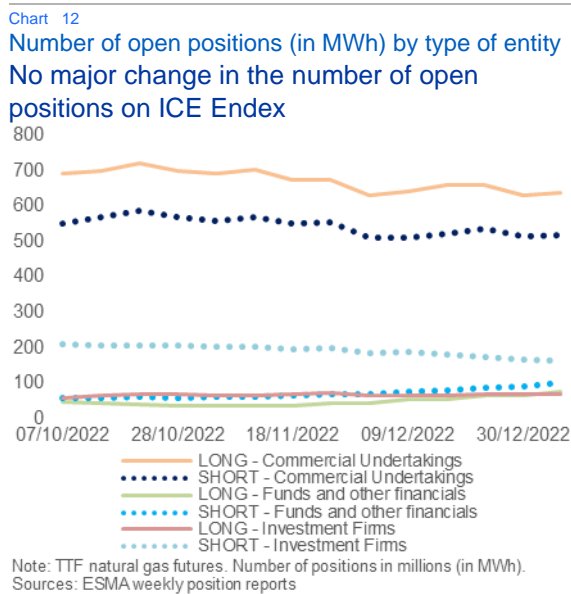
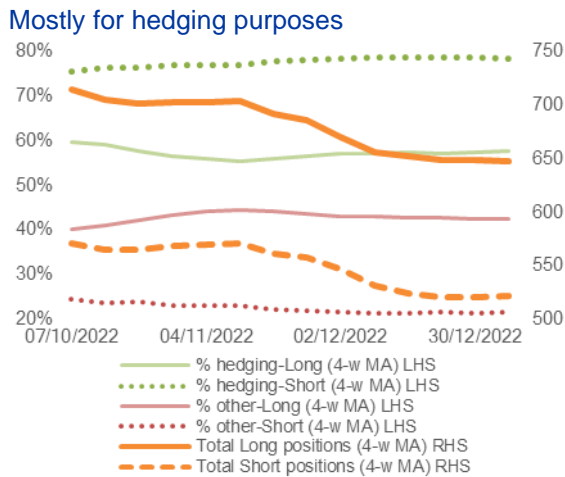
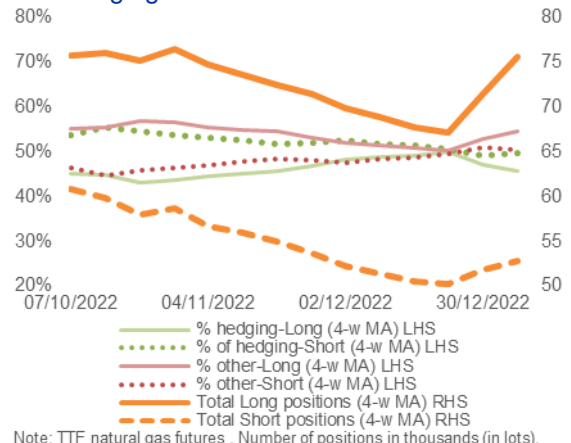


Chart 14  
Hedging vs. non-hedging positions of NFCs, ICE  
Excess



Note: TTF natural gas futures. Number of positions in millions (in MWh).  
Sources: ESMA weekly position reports

Chart 15  
Hedging vs. non-hedging positions of NFCs, EEX  
Almost equal distribution between hedging and non-hedging



Note: TTF natural gas futures. Number of positions in thousands (in lots).  
Sources: ESMA weekly position reports

### Potential market effects

40. The most immediate effect that could be expected from the introduction of the MCM is a significant reduction of the attractiveness of the EU TTF derivatives market, which would be measured by a reduction of both open positions and traded volumes in the affected TTF derivatives. This effect would materialise if market participants redirected their trading activity to markets where the price formation process would be unaltered by the activation of the MCM.
41. The possibilities for market participants to modify their trading behaviour in response to the MCM Regulation, and risks associated with such migration of trading activity, are further analysed in the following sections.
42. ESMA will closely monitor the evolution of volumes and open interests in TTF derivatives, using the same data sources as those presented above, as well as possibly other sources of regulatory reporting (e.g. EMIR data).

### 4.3 Impact on OTC versus on-venue trading

#### Background and data used

43. The MCM applies to TTF derivatives traded on EU regulated markets and not to the bilateral OTC market. With TTF derivatives currently being largely executed on-venue, it is crucial for ESMA to monitor the impact of the MCM Regulation on the breakdown between OTC versus on-venue trading.
44. In the ETD space, investors trade standardised futures on derivative exchanges as market members or through direct market access (whereby investors trade through the account of a market member). These derivatives are cleared through Central Counterparties (CCPs), which interpose themselves between counterparties to manage their counterparty credit risk. Investors have to post margins (i.e. collateral) to the CCP, either directly as clearing members or indirectly as clients, to cover for the exposures arising from the cleared contracts. All clearing members are subject to similar requirements regarding initial and variation margins posted at the CCP. However, eligible collateral may differ between clearing members and clients and clearing members may apply margin add-ons towards clients. In the OTC space, counterparties enter into derivatives trades that can have bespoke characteristics.
45. To monitor possible shifts of trading activity from ETD to the OTC, ESMA is relying on regulatory data on derivatives reported to EU trade repositories under the EMIR Regulation (EMIR data).

#### Market developments observed

46. In commodity derivative markets, the sharp price rises observed until end-August 2022, and the corresponding increase in margin requirements on ETDs have been associated with a migration of derivative transactions to non-cleared OTC markets, especially by non-financial corporates. Some firms might have migrated to OTC markets to reduce liquidity risk linked to rapidly changing variation and initial margins to be posted in cash or in high-quality collateral. On OTC markets, less restrictive collateral arrangements could potentially be negotiated, particularly by highly rated commodities firms.
47. Before the Russian invasion of Ukraine, non-financial counterparties (NFCs) exposures to OTC gas derivatives amounted to around 15% of outstanding gross notional amounts and increased to around 25% after the beginning of the war (Chart 17). OTC exposures then fell again back to pre-war levels until August 2022. However, since end-August 2022

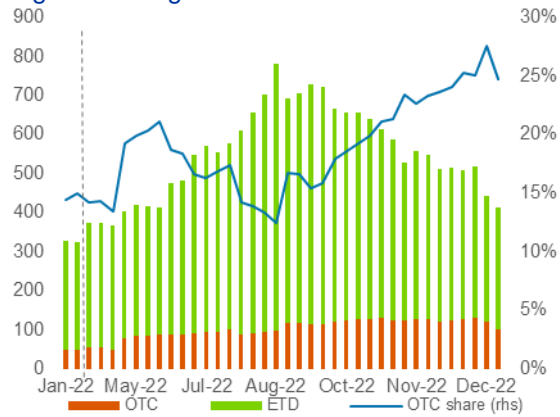
the migration to OTC has accelerated with OTC accounting for around 25% of overall gross exposures early January 2023. This trend has been more pronounced for NFCs, with OTC exposures at close to 30% for NFCs in early January 2023. Zooming onto the top-20 NFCs by notional amount an OTC rate of 20% is observed indicating that this group of entities slightly less engage OTC transactions than the rest of the NFCs residing in the EEA30 (Chart 18). The OTC transaction share has dropped slightly in the last week of December and at the beginning of January 2023, both at an overall level and for NFCs. However the share of OTC transactions remains at around twice its end-August 2022 levels. ESMA will continue to monitor these developments closely.

48. The OTC rate of outstanding gas derivatives varies across member states and firms in January 2023. Among the top-6 EEA30 countries two countries had OTC rates above 20%, with their notionals amounting to around 15% of EEA30 exposures. At firm level, there was a significant rise last year in the use of OTC for top-20 NFCs (by gas derivatives exposures), as of January 2023, the OTC rate for top-20 NFCs is ranging from 7% to more than 19%.

Chart 16

**ETD and OTC gas derivatives exposures (FCs + NFCs)**

**Significant migration from ETD to OTC**

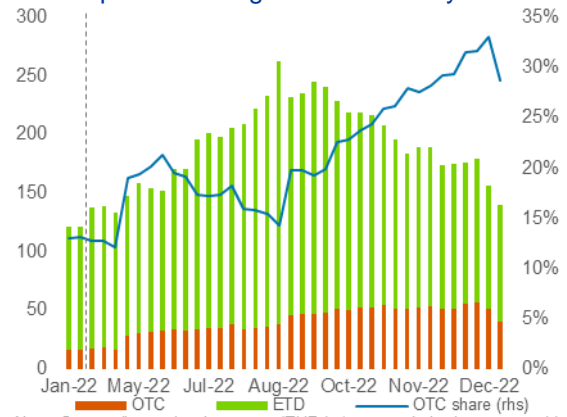


Note: Outstanding notional amounts (EUR bn) on gas derivatives, by ETD/OTC. All sectors included, intragroup trades excluded. Dashed line shows the beginning of the invasion of Ukraine.  
Sources: EMIR, ESMA

Chart 17

**ETD and OTC gas derivative exposures (NFCs)**

**Similar pattern of migration to OTC by NFCs**



Note: Outstanding notional amounts (EUR bn) on gas derivatives reported by NFCs, by ETD/OTC. Intragroup trades are excluded. Dashed line shows the beginning of the invasion of Ukraine.  
Sources: EMIR, ESMA

Chart 18

**OTC open positions of 20 most active NFC**  
**Increase in OTC activity by top-20 NFC**



Note: Aggregated share of OTC outstanding notional amounts (% of total) reported by top 20 non-financial corporations. Intragroup trades are excluded. Gas derivatives only. Dashed line shows the beginning of the invasion of Ukraine.  
Sources: EMIR, ESMA

Note: Weekly outstanding notional amounts on gas derivatives. Notional amount figures are sensitive to the price of the underlying. Observation period ends on 6 January 2023.

**Potential market effects**

- 49. To avoid the potential implications of the MCM and particularly a potential increase in margin calls, trading in TTF products could move away from regulated markets and

CCPs to uncleared bilateral trading, with potential liquidity, transparency and financial stability impacts.

50. Trading derivatives on regulated platforms and clearing derivatives through CCPs is internationally considered to contribute to the safety and transparency of financial markets.<sup>7</sup> A significant shift by utilities and energy firms towards the OTC space would imply greater risks for counterparties and the financial system. Supply and demand may move outside of exchanges and therefore the liquidity in the exchange market could deteriorate or even disappear. In the absence of a guarantee-function provided by CCPs, including effective risk controls, the overall credit risks are expected to increase for market participants.
51. However, OTC derivatives, when not used for hedging purposes, count towards the clearing thresholds, whereas derivatives executed on a regulated market do not. Given the rather narrow definition of “hedging” in EMIR, moving to OTC derivatives trading might trigger new EMIR requirements for counterparties that would start exceeding the clearing thresholds as a result, in particular bilateral margining requirements. As detailed in ESMA’s June 2022 final report on the review of the clearing threshold for commodity derivatives<sup>8</sup>, exceeding the clearing threshold can have a large impact on certain counterparties and this aspect may thus have been one mitigant against a larger move of derivatives trading to the bilateral OTC market.
52. Such migration from regulated markets and CCPs to uncleared bilateral OTC presents risks, as OTC markets are less liquid and transparent than ETD and counterparty risk is higher since there is no centralised risk management for such uncleared OTC transactions. The migration to OTC may also reduce liquidity and price discovery on lit markets. Appropriate pricing of cleared positions is crucial for their valuation and the evaluation of CCP risk exposures towards clearing members.

## 4.4 Impact on geographical location of trading activity

### Background and data used

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<sup>7</sup> See for example, the G20 Pittsburgh statement of September 2009.

<sup>8</sup> [ESMA proposes EUR 1 billion increase of the commodity derivatives EMIR clearing threshold \(europa.eu\)](https://www.esma.europa.eu/press-news/esma-news/esma-proposes-eur-1-billion-increase-of-the-commodity-derivatives-emir-clearing-threshold)

53. The MCM applies to TTF derivatives traded on EU regulated markets and not to those traded on third-country venues. Currently, TTF derivatives are also available for trading in the US on CME. In terms of data availability, it was difficult for ESMA to draw a comprehensive picture of trading activity taking place on third-country trading venues as those are typically not reporting to FITRS.

#### Market developments observed

54. ESMA has not been in a position to thoroughly assess the volumes currently executed on TTF derivatives on non-EU venues. Based on information publicly available, trading activity in TTF derivatives on CME appears very limited compared to the trading activity taking place on EU venues.

#### Potential market effects

55. There is a possibility that trading activity migrates to trading venues not covered by the MCM, with a migration of the trading flow to third-country venues where TTF derivatives are already available for trading.
56. In addition, trading in TTF derivatives could also move from the EU platform currently offering TTF derivatives to a non-EU entity, within the same group, following a business decision of the providers of these products. Non-EU trading venues may not necessarily be deemed equivalent, and the competences of EU supervisors would be limited.
57. However, derivatives executed on third-country markets that have not been deemed equivalent (under Article 2a of EMIR) fall under the definition of OTC derivatives under EMIR, and as such count towards the clearing thresholds (see section 4.3 regarding OTC derivatives and the clearing thresholds). Equivalence decisions regarding third country markets are a responsibility of the European Commission and ESMA maintains a list on its website<sup>9</sup>. Notably, UK markets do not benefit from an equivalence decision. A move of derivatives to third country markets not declared equivalent, and thus considered as OTC derivatives, might trigger new EMIR requirements for counterparties

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<sup>9</sup> Link to ESMA's list of third country markets declared as equivalent for the purposes of the definition of OTC derivatives under EMIR: [ESMA70-708036281-113 - Equivalent TC-Markets under EMIR \(europa.eu\)](https://www.esma.europa.eu/press-news/esma-news/esma70-708036281-113-equivalent-TC-markets-under-emir)



that would start exceeding the clearing thresholds as a result, in particular bilateral margining requirements, with the impacts already mentioned in section 4.3.

58. Going forward, to the extent that one counterparty is an EEA-based entity, ESMA will use EMIR data to monitor whether derivative transactions move from EU to third-country trading platforms. ESMA may complement this with other non-regulatory data to provide an overview of international activity in natural gas derivatives.

## 4.5 Impact on traded maturities

### Background and data used

59. The MCM applies to TTF derivative contracts which, on the day when a market correction event is triggered, are due to expire in the period from the expiry date of the front-month TTF derivative to the expiry date of the front-year TTF derivative.
60. As a result, there is a possibility that trading activity migrates to TTF derivatives with maturities which are not in the scope of the MCM, either with shorter or longer expiry dates. ESMA relied on commercial data to obtain a first estimation of the breakdown of open interest in TTF derivatives between the various maturities available for trading.

### Market developments observed

61. Currently, shorter maturities are available for trading in the form of daily futures on ICE Endex; and in the form of financially settled daily, weekend and weekly contracts on EEX. Expiries beyond the front year are also available with typically smaller volumes and open interest.
62. As of 9 January 2023, the front-month TTF futures contract represented 28% of the total TTF futures open interest on EEX and 6.9% on ICE Endex. Open interests on contracts with expiry dates before the current front month (i.e. before 30 January 2023) were not available. Regarding contracts expiring after the expiry date of the current front year

contract (i.e. after end December 2023), the open interest were limited on EEX (around 4%) and higher on ICE Endex (around 40%)<sup>10</sup>.

63. In the first half of 2022, market participants have significantly reduced their exposure to longer dated contracts, as evidenced by the drop in the open interest of long-dated TTF contracts in July 2022 compared to the levels of January 2022, in response to the increased uncertainty around the geopolitical environment (Chart 11).

#### Potential market effects

64. The range of maturities under the scope of the MCM is broad and captures the majority of the open interest on TTF derivatives, both on ICE Endex and EEX. It seems unlikely that counterparties would replace their current TTF derivatives exposures with contracts limited to very short or very long maturities, as those are not interchangeable. As such, avoidance practices built upon the trading of shorter or longer maturities appear as a rather remote option. However, this will be monitored by ESMA.
65. Going forward, ESMA will use data from regulatory sources, market participants and data vendors to monitor whether the migration to TTF derivatives with maturities outside the MCM scope is taking place.

## **4.6 Impact on types of trading venues in the EU**

#### Background and data used

66. The MCM applies to TTF derivative contracts traded on a regulated market. Notwithstanding the possibility for trading activity to take place OTC without the application of a cap, TTF contracts traded on other types of EU venues, namely multilateral trading facility (MTF) and organised trading platforms (OTF), would also not be affected by the MCM.

#### Market developments observed

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<sup>10</sup> Data as of 9 January 2022 sourced from Refinitiv EIKON.

67. TTF derivatives are currently not available for trading on EU MTFs (according to FITRS data, no trading activity on TTF derivatives was reported by MTFs). Regarding OTFs, ESMA observed a very limited trading activity on gas derivatives reported by two EU OTFs to FITRS, including one OTF for which the trading activity was limited to non-TTF contracts.

#### Potential market effects

68. Due to the administrative burden, the costs involved and the time constraints, setting up an MTF specifically for the purpose of offering TTF derivatives (hence avoiding the MCM) seems rather theoretical at this point in time.
69. Regarding TTF derivatives traded on OTFs, only cash-settled contracts would qualify as financial instruments as the physically settled contracts would be excluded from the MiFID scope in application of the C(6) carve-out.
70. While the likelihood of a migration of trading activity to OTF and MTF appears limited, this will be monitored by ESMA. EMIR, FITRS and commercial data can be used to analyse whether a migration to other gas contracts not covered by the MCM is taking place.

## **4.7 Impact on gas derivative contracts not covered by the MCM**

#### Background and data used

71. The MCM applies in a first step only to TTF derivatives, while the assessment related to whether derivatives linked to other VTP should be covered as well will be performed in a second step. As a result, there is a possibility that trading activity migrates from TTF derivatives to gas derivatives linked to other VTPs.

#### Market developments observed

72. Currently, most gas derivatives trading activity takes place on TTF derivatives, with around 95% of volumes (Chart 7), with no indication of recent evolution of the breakdown between the different VTP.

#### Potential market effects

73. EMIR, FITRS and commercial data can be used to analyse whether a migration to other gas contracts not covered by the MCM is taking place.

## **4.8 Impact on the hedging of positions**

### Background and data used

74. Gas derivatives are to a large extent used by non-financial counterparties as a hedging instrument to manage their exposure in the physical underlying. The MCM could therefore limit the ability of those counterparties to effectively manage their risks.
75. Under the EU regulatory framework, non-financial counterparties are required to flag their transactions/positions as hedging or non-hedging, for the purpose of both EMIR reporting and the MiFID weekly position reports. For this preliminary report, only the latter source was used.

### Market developments observed

76. NFCs account for roughly 70% of the total open positions in gas derivatives, according to both MiFID position data (Chart 3) and EMIR data (Chart 4), but an upward trend in the recent past. According to MiFID weekly position reports (Charts 14 and 15), more than 50% of NFCs open positions are for hedging purposes. ESMA could not identify a significant change in the split between hedging versus non-hedging positions in the recent months.

### Potential market effects

77. Market participants could choose to avoid holding positions in a contract for which the MCM could be activated, reducing market liquidity in TTF derivatives and reducing hedging activities. Market participants holding open positions in impacted TTF derivatives would be exposed to the uncertainty of not being able to close their positions again upon the activation of the MCM (there are uncertainties associated with the exemptions the MCM provides for existing positions).
78. More precisely, since market participants holding open positions at expiry of physically settled products have the obligation to make or take delivery, triggering a price limit might lock the participant into an obligation without the ability to modify its position, in particular if such participant cannot trade OTC and the on-exchange liquidity is restricted due to

the application of the MCM. A reduction in hedging activities would lead to market participants being exposed to unhedged risks.

79. The impact on the extent of hedging activity can be monitored at a market-wide and individual level with EMIR data as well as using the weekly position reports.

## **5 Potential impact of the MCM on CCPs and clearing ecosystem**

80. TTF contracts are centrally cleared through central counterparties (CCPs). The activation of the MCM (and potentially the anticipation of its activation) therefore has an impact on CCPs as systemically important entities (5.1), and on the broader clearing ecosystem (5.2), notably through potentially additional CCP margin calls and subsequent liquidity needs for the clearing members and clients.
81. As the final impact of the MCM on CCPs will ultimately depend on the precise footprint of the MCM and the wider market conditions prevailing at the time of the activation of the mechanism, the description of the potential effects of the MCM on CCPs in this section is not exhaustive and remains qualitative in nature.
82. Moreover, it should be noted that EMIR introduces minimum requirements on CCPs but that the degree of conservatism applied by the CCPs themselves remains at their discretion and has not yet been determined.

### **5.1 Impact of MCM on CCPs**

83. CCPs significantly reduce counterparty risk borne by participants in financial and commodities markets, by interposing themselves between the counterparties of the cleared contracts, becoming the buyer to every seller and the seller to every buyer.
84. In order to be able to manage this risk and perform its critical role, a CCP needs to cover its exposures through financial resources, typically consisting of margin (initial, variation, intraday), own capital, and a default fund. In addition, the CCP should make sure that it has an appropriate default management process to close the defaulter's portfolio either through liquidation or client position transfers and the financial resources that would be required to cover such obligations. To achieve this, CCPs need to collateralise their exposures at least on a daily basis, to measure and assess their exposures on a near to

real time basis and call and to collect intraday margin at least when predefined thresholds are exceeded.

85. This critical risk management function was codified in the EU in the aftermath of the 2008 financial crisis with the European Market Infrastructure Regulation (EMIR), which defines strict requirements on the risks that should be covered by CCPs and the minimum arrangements that should be adopted to manage these risks.

#### 5.1.1 Impact on CCP risk management functions

86. The activation of the MCM caps the price of transactions executed on the exchange, thereby impacting the price discovery function of the exchange. The absence of reliable market prices directly impacts the CCP's risk management framework, as prices are essential input for the:
  - Calculation of margins, which aim to protect the CCP and its clearing members against losses from current and future exposures;
  - Default management processes of the CCP, which are essential to limit losses in case of an actual default of a clearing member and to return the CCP to a matched book; and
  - Determination of the settlement price for the physical delivery of the underlying asset.
87. In other words, when the price cap of the MCM is reached, CCPs may no longer be able to use the exchange price to reflect the market-implied value of the impacted TTF future for margin calculations and the management of a clearing member's default. Instead, they will have to find alternative price sources, in line with regulatory requirements, for example, on OTC markets or other alternative sources.
88. Such alternative prices may come with increased uncertainties and risks. For example, OTC market prices are non-uniform, fragmented, and less transparent, and their use could potentially challenge the CCP's proper estimation of its exposures and generally its ability to manage risks.

### 5.1.2 Impact on CCP calculation of exposures

89. The potential reliance on OTC prices and/or other alternative pricing sources to model CCP exposures may lead to higher pricing uncertainty, which could require the CCP to adjust the calculation of its initial margins. Under EMIR RTS Art.47(5), the CCP is required to address pricing limitations by adopting conservative assumptions based on observed correlated or related markets.
90. As historical time-series are one of the key inputs for CCPs' risk management models, the lack of reliable price data to estimate potential losses in case of a default event may require CCPs to increase margin requirements to account for the risks.
91. Moreover, CCPs are allowed under EMIR to offer portfolio margining offsets where price dependencies across maturities and related products are significant, reliable, resilient under stress conditions, and subject to an economic rationale. However, the potential activation of the MCM may break these dependencies and require CCPs to review such offsets. The reduction or withdrawal of the provided offsets would increase the amount of required collateral from clearing members and clients, especially for those that have positions/hedges across different maturities or energy contracts.
92. In addition, the MCM is expected to increase the price volatility of the near-term TTF futures ahead of the activation of the price cap, as well as longer maturities, potentially leading to whipsaw moves if the cap is activated and then removed under pressure. The CCP may have to increase margin requirements and/or use hypothetical stress scenarios that could model such behaviour.
93. Further complications arise for exchange-traded options contracts based upon TTF futures. TTF option products are key supporting products for market participants to hedge their exposures. The triggering of the MCM may impact both the underlying value and implied volatility of the option, which are key variables for the accurate valuation of these contracts and to perform daily settlements.
94. Finally, the MCM and the activation of the price cap may require changes to the CCPs' risk management models, which requires time to implement. Any significant changes to risk models require comprehensive and conservative implementation, as prescribed by EMIR, including reviews by different layers of the governance structure and an independent validation. The activation time of the MCM may be incompatible with the required time needed for such changes.

95. Moreover, even if the relevant price levels for the application of the MCM have not been reached, a CCP may still need to incorporate changes to the relevant risk models in anticipation of potential risks. If CCPs would increase margin to reflect these additional risks subject to increased price levels, this could further add to liquidity pressures that would anyway be triggered by the higher price levels.

### 5.1.3 Impact on CCP default management

96. In case of a clearing member default, the CCP is required take prompt action to close-out the defaulter's position and contain losses and liquidity pressures, while meeting its obligation towards surviving clearing members. Depending on the default management procedures of the CCP and the nature of the portfolio, this may require the execution of hedging/close-out transactions and/or an auction. In addition, the CCP may also have to facilitate the delivery of the underlying asset (e.g. natural gas) on behalf of the defaulting clearing member.
97. A CCP would need an active market to liquidate the positions of a defaulting member in order to minimise its risks and close-out costs. If the MCM has been activated, the CCP may not be able to find sellers through the central order book that are willing to sell at the capped price as they could potentially sell the gas at a higher price in the OTC market, potentially endangering the success of the default management process.
98. Although the trades executed as part of a default management process organised by a CCP benefit from an exemption from the MCM under Article 12(4)(c), it is unclear to what extent this exemption applies to the counterparties (e.g. clearing members or clients) that participate to the default management process. Market participants that provide bids for the defaulters' portfolio may subsequently need to reduce their exposures in a gradual manner in the market. If this proves to be impossible, the potential exposures will increase for these market participants, which would be reflected in higher prices for the auctioned portfolio or a failed auction process.
99. Generally, the CCP's management of a default situation is expected to be more difficult and the MCM could create challenges and potentially also additional risks and costs in trying to return to a balanced book and effectively discharge all obligations.
100. Moreover, if a CCP fails to timely perform all physical delivery obligations during a default, e.g. due to limited liquidity, and/or decide to instead replace delivery obligations with cash settlement at a set price subject to its rules, the physical delivery of gas at



maturity of contracts could be disrupted creating uncertainties on the effectiveness of participants' hedges.

101. The MCM could cause a change in the fundamentals of the cleared products and the liquidation of a defaulter's portfolio, including adaptations in operational and legal arrangements. Default management procedure should be designed in advance, discussed with clearing members and subject to rigorous ex-ante default management testing, which may be difficult in advance of the MCM coming into force.

## **5.2 Potential impact on clearing ecosystem**

102. As outlined in Section 5.1, the activation of the MCM could increase the size of margin requirements. Parameters used by CCPs as input for margin calculations may be impacted by the need to use alternative price sources. Reduced market liquidity and a reduced potential for portfolio margin off-sets could further contribute to increased collateral needs at the level of CCPs.
103. This potential increase in margin requirements would be passed on to the clearing members, and in turn, to their clients. Clearing members and clients may be exposed to increased liquidity pressures in a situation of already highly stressed markets. Moreover, uncertainties resulting from a potential activation of the MCM could discourage market participants from holding positions in TTF contracts and thus challenge the effectiveness of their hedges.
104. During the past year, clearing members and their clients have been subject to substantial margin calls of CCPs as a result of Russia's invasion of Ukraine and its impact on energy markets. These margin increases have created substantial liquidity strains on market participants, in particular non-financial counterparties (NFCs), which typically have fewer and less liquid assets to meet margin requirements, forcing them to either reduce their positions or leaving them not properly hedged and exposed to further price variations.<sup>11</sup> The MCM could further add to these pressures, once activated and/or subsequent to model changes of CCPs.

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<sup>11</sup> See, for example, ESMA Final Report Final Report on Emergency measures on collateral requirements, 14 October 2022.

105. The exact measures that the CCP may adopt as a response to the MCM may vary and also depend on its risk appetite or sophistication. Regulatory provisions are in most of the cases minimum requirements and CCPs have a degree of discretion on how to address risks subject to the regulatory requirements. Moreover, the extent of the changes required will depend on the precise footprint of the market correction mechanism, including for example the potential propagation of effects beyond the TTF contracts or across different related assets.

### **5.3 Indicators for changes in risk management and increase in margins**

106. In view of the potential impact of the MCM on CCP risk management and the clearing ecosystem, ESMA will start gathering and monitoring data as from the entry into force of the MCM. Where the data is not directly available to ESMA, ESMA will rely on the voluntary participation of the CCPs and the relevant national supervisory authorities to ensure it has a complete view of the impact of the MCM on CCPs and the clearing ecosystem. Where available, data from external commercial data providers will also be used.
107. A first set of indicators will capture the impact of the MCM on the CCPs' capacity to conduct their risk management activities, in particular, to calculate their exposures and to manage potential clearing member defaults. ESMA will consider the following indicators:
- Price volatility of the TTF contracts and related contracts (see also paragraph 4.1)
  - Change in prices and dependency structure between MCM impacted contracts and remainder of maturities (see also paragraph 4.5)
  - Change in level of market liquidity in terms of traded volumes measured against the positions in TTF (or related) contracts held at the CCP by the relevant clearing members
  - Performance of margin algorithm in terms of confidence level coverage and back-testing breaches
  - Changes in margin parameters, algorithms or default management procedures proposed/implemented by the relevant CCPs.

108. A second set of indicators will be used to monitor the impact of the MCM on the clearing ecosystem, in particular, the size and frequency of margin calls, differentiating between initial, variation and intraday margins. Margin levels, in conjunction with changes in prices, clearing positions, and open interest can provide insights on the impact of the MCM on liquidity needs of clearing members and clients. ESMA will consider the following indicators:
- Increase in size of initial margin linked to TTF and related contracts
  - Increase in size of relevant variation margin calls
  - Increase in size and frequency of relevant intraday margin calls
109. There are several limitations related to the ESMA's data monitoring activities:
110. Not all information will be available immediately as the data is subject to operational delays in collecting, processing, and reporting this data.
111. Most of the indicators require information that is not publicly available and would need to be requested to CCPs and/or their supervisory authorities on a voluntary basis, which may include confidential data that cannot be published.
112. Some data is not available at the level of granularity that is required for this specific type of analysis, for example, because the impacted TTF contracts are subject to off-sets against other maturities/products or information is only available on the clearing account level and not on the product level.
113. Information relating to initial margin will be reported by CCPs at the level of the clearing member (split by house and client accounts) but not at individual client level (e.g. where a client clears through an omnibus account). Most CCPs do not have access to individual client positions held by clearing members. Also, clearing members may apply margin multipliers to margin calculated by CCPs.
114. Having regard to these limitations, ESMA will start collecting data to monitor the above indicators, as far as available and reliable. An initial data analysis will be included in the ESMA report requested for 1 March 2023.

## 6 Conclusions

115. With this preliminary data report ESMA delivers a first assessment of the impacts on energy and financial markets, in parallel to an independent report delivered by ACER, of the MCM following its adoption by the European Council on 22 December 2022. ACER and ESMA closely collaborated when developing the reports to ensure that relevant and potential developments in financial and energy markets and the security of supply are assessed and to limit overlaps and divergences.
116. Given that the Regulation was only adopted one month ago and taking into account that (regulatory) data in most cases is available only with a certain time lag and that the end of the year period is not a very representative period due to bank holidays and end of year effects, the analysis focussed mostly on developments in the second half of 2022. Nevertheless, covering both data before and after the adoption of the Regulation allows, on a preliminary basis, an assessment whether market developments observed follow a broader general trend or whether the adoption of the Regulation triggered new developments or amplified existing trends.
117. The report also presents the various indicators, based on regulatory and commercial data sources, that ESMA intends to use in the context of the effects assessment due by 1 March and for ongoing monitoring.
118. At this stage, based on the analysis of quantitative and qualitative data available, ESMA could not identify significant impacts that could be unequivocally attributed to the adoption of the Regulation. It appears that trends already present ahead of the adoption of the Regulation continue dominating the market environment. In particular, the trend to lower open interest and a migration to OTC-trading appears unchanged.
119. However, this should not be interpreted as the MCM not having any effects on financial and energy markets. ESMA notes that, by curbing the key price discovery function of regulated markets, the MCM will not come without consequences on market participants' trading behaviour and may have an effect on the ability of all market participants to effectively manage their risks.
120. It would appear likely that market participants adapt to the MCM by redirecting their trading activity to those contracts / venues / execution types not affected by the MCM. Such adaptations could be achieved by various means, notably by shifting trading to OTC or to non-EU venues. Moreover, market participants could shift trading to contracts

with maturities not subject to the Regulation or (at least for the time being) on VTPs different from the TTF. Some of these adaptations are likely to reinforce trends that can already be observed today, such as the trend to move trading OTC, which is likely to further lower open interest and ultimately reduce available liquidity on regulated markets for TTF contracts.

121. Based on the assessment of the clearing environment, the MCM is expected to impact the relevant CCPs and the clearing ecosystem. The use of less reliable price sources for the CCP's margin calculations and default management may affect the CCP's ability to manage risks. The clearing ecosystem may also be impacted through an increase in margin calls, a potential overall reduction of market liquidity, as well as a potential reduction of hedging opportunities.
122. It is entirely possible that some of the potential effects in the trading and clearing environment might only unfold when the activation of the MCM is imminent and not in the current environment. Hence, should the settlement price and the spread to the reference price increase, the more likely it appears that potential effects and risks materialise due to market participants adjusting their behaviour to avoid the activation of the MCM and/or to manage risks in case of an activation of the MCM. While this behaviour would appear rational on an individual basis, it could trigger significant and abrupt changes of the broader market environment, which could impact the orderly functioning of markets, and ultimately financial stability.
123. ESMA will carry out a more detailed assessment, including longer time series covering the period after the adoption of the MCM and more granular indicators as highlighted in this report for the effects assessment due by 1 March 2023. Likewise, the qualitative impact assessment of the introduction of the MCM will be supplemented in the 1 March assessment. The effects assessment will be carried out in close cooperation with ACER.